Improving Educational Quality (IEQ) Project

EXPLORING FACTORS THAT INFLUENCE TEACHING AND LEARNING: SUMMARY FINDINGS FROM THE IEQ/MALAWI LONGITUDINAL STUDY 1999-2002

IEQ/Malawi

A partnership among
American Institutes for Research
Malawi Institute of Education
Save the Children Federation/US/Malawi Field Office

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Acknowledgements

The findings presented in this document mark a unique activity in Malawi – a longitudinal study of primary school children in southeastern Malawi, conducted from 1999-2002. A partnership of three organizations – the American Institutes for Research, the Malawi Institute for Education and Save the Children/US (Malawi Field Office) comprised the Improving Educational Quality Project in Malawi team – IEQ/Malawi.

The longitudinal study took place in 64 schools in Mangochi and five schools in Balaka. The baseline sample (February 1999) focused on Standards 2,3,& 4 and each standard was followed through October 2002, except for October 2001 when teachers were on strike. Data were collected on: pupil achievement in literacy (English & Chichawa) and numeracy; teacher education and instructional practices; the classroom environment and interviews were conducted with Headteachers, parents and community members. Such data provide an illuminating profile and a rich source of information about individual pupils, their school life and family life, and the environment that influences their opportunity to learn. These findings offer highlights from the team's analyses but there is more to learn!

The IEQ/Malawi team worked with a large and committed group of practitioners, researchers and policymakers throughout this activity. We extend special appreciation to:

USAID/Malawi and USAID/EGAT who have offered ongoing support and guidance – Mr. William Mvalo; Mr. Ramsey Sosola; Ms. Patricia Ziwa; Dr. Sarah Wright; Kalinde; Mr. John Hatch and Dr. Benjamin Alvarez;

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Throughout the course of this activity, there were many other stakeholders: e.g., government officials from national and regional offices; data collectors from teacher training colleges, district education offices, Malawi National Examinations Board, local post secondary institutions; local schools; the teachers and pupils within our target schools; parents and colleagues from other donor agencies who have participated in seminars and workshops and IEQ Exchanges. Our work together has enriched the potential for improving the quality of education for all children in Malawi. Thank you all for your support.

Jane G. Schubert
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Prologue

Malawi was one of the first sub-Saharan African countries to open the doors of primary schools to all school-age children (FPE 1994). Since that time, policymakers and practitioners have been challenged to fulfill that commitment to Malawi's children and to ensure that having enrolled in school, children would receive a quality education. In 1998, USAID/Malawi invited the Improving Educational Quality (IEQ) Project to form a partnership with the Malawi Institute of Education (MIE) and Save the Children Federation/US (Malawi Field Office) to examine the implementation of Save the Children's Quality Education Through Supporting Teachers (QUEST) program. The research is unique because it follows a cohort of pupils through four years of the primary school cycle.

This two-volume series presents a summary of the findings and a collection of papers that report further investigation of key issues of that research. The longitudinal study of 64 schools in Mangochi and five in Balaka was conducted by the IEQ/Malawi team between 1999 and 2002: Data were collected at five points in time: February and October 1999; October 2000; and February and October 2002. A teachers' strike prevented data collection in October 2001. Within each school, one S2, S3 and S4 was selected per school. Sixteen pupils in each S2 and eight pupils in each S3 and S4 were selected per class. The Mangochi schools are located in 13 zones across the district and reflect the geographic, economic and industrial diversity of the area.

The type of data collected include: curriculum-based measures of pupil performance in literacy (both Chichewa and English) and numeracy; observations of teachers' pedagogical skills; teachers' proficiency in math and English (1999); teachers' formal and informal training; interviews with pupils, teachers, headteachers and parents. The team also tracked information about pupils in the sample who left school.[1] While pupils from S2 were followed throughout the study, those from the original S3 and S4 classes were surveyed, assessed and observed through October 2000. Tracking information was collected for all pupils during all follow-up study periods. A followup study of the 50% of the teachers present in February 1999 but not in the same class in October 1999 was conducted to determine what happened to the missing teachers. By design, the instruments were transparent. For example, children were asked to read from their textbooks and display numeracy through practical solutions. Classroom observations were based on factors deemed important by trainers.

The findings presented here about the experiences of primary school pupils as they move through the cycle, the factors that influence their learning, the learning environment of both the teachers and the pupils merely tap the surface of the magnitude of the information contained in the database. The potential for further exploration about teaching and learning within these schools exists! The data will be made available to other researchers.

[1] See Appendix 1 for sample questions from the assessment instruments.

Key elements in the success of IEQ/Malawi in undertaking such an ambitious activity were:

- the inclusiveness of 100+ educators throughout the sector – national and district level educators, primary education advisors, lecturers from the teacher training colleges and the University of Malawi, MIE curriculum writers, SAVE teacher trainers, community organizers in data collection (thereby exposing them to the procedures and instruments used in the study) participatory nature of the research;

- the sharing of concrete findings about pupil performance and instructional skills and the discussions of how to use the knowledge throughout the period of the study – with parents and teachers, within the MIE and SAVE institutions at seminars and workshop, at IEQ Exchanges with policymakers and practitioners (around the same table) in Malawi and at international conferences;

- the location of the IEQ in Malawi institutions – Malawi Institute of Education and Save the Children in Mangochi so as to strengthen the capacity of members to use qualitative and quantitative methods in classroom-anchored research and apply the IEQ approach to new situations as useful and desirable;

- the excitement and renewed commitment to the efforts, particularly as team members visited the field and began to share insights and experiences from interacting with the community, the local educators and the pupils.

Volume 1 contains summaries in user-friendly formats of eleven key findings of the longitudinal study. These findings begin with a description of the pupils and are followed by: learning over time; comparison with a continuous assessment intervention; retention over four years; the use of mother tongue in the classroom and the relationship between mother tongue of pupil and teacher; the availability and use of instructional materials; teacher qualifications linked to pupil outcomes; use of instructional resources; followup of teacher mobility; role of communities in school; and external influences on learning.

Volume 2 presents the Context of the Study; Primary Education in Mangochi and Balaka; Language Policy and Education in Malawi; Teacher Qualifications, Classroom Practices, Classroom Resources and Pupil Learning; Pupil Characteristics Predict Learning; and the Effects of HIV/AIDS in the Classroom.

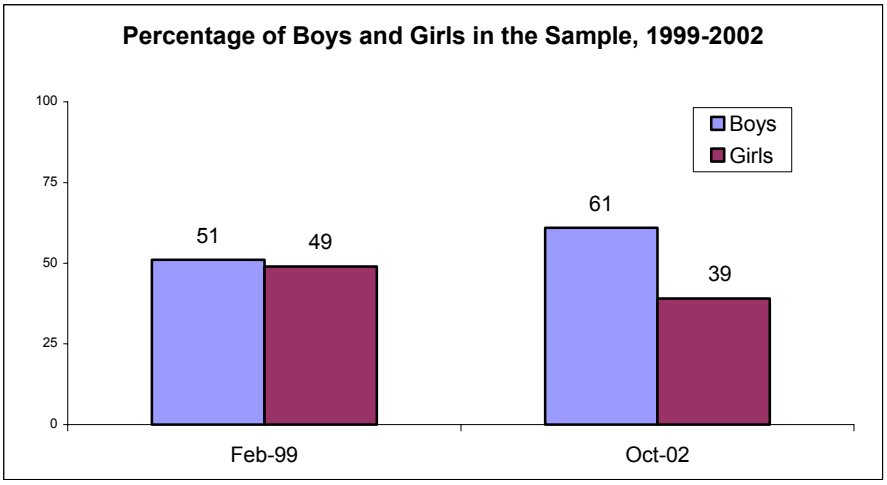
The IEQ/Malawi team strived to pinpoint opportunities for improving the quality of learning, by producing credible and accessible knowledge about factors that influence the influence such quality. Readers are invited to be users of this knowledge and to continue the exploration into the classroom – the workplace of learning. Through ongoing and systematic exploration of teaching and learning, the parallel goals of quality and access may be achieved and demonstrated by the successful completion of the primary cycle of all children.

Who are the pupils?

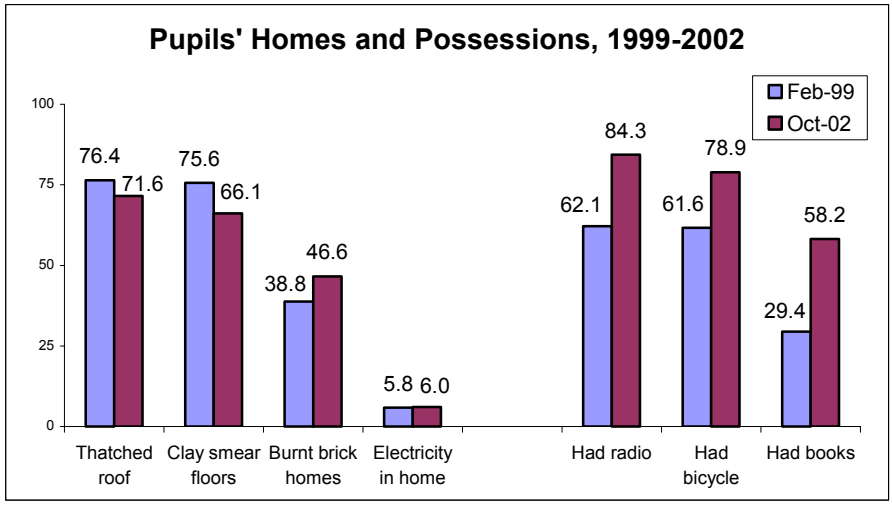
IEQ collected data on a cohort of pupils who were in standard 2 in February 1999 and followed them through October 2002. The average pupil in the sample from standard 2 at the start of the school year in 1999

- Was 9.1 years old;
- Weighed 24.7 kilograms;
- Was 126.7 centimeters tall;
- Has 2.4 older siblings and 1.6 younger siblings; and
- Had spent 2.83 years in school.

In February 1999, equal numbers of boys and girls were randomly selected from standard 2 class lists in each of the 64 participating schools. Girls comprised 49% of the original sample. The majority of pupils spoke Chiyao as their first language (59.1%) and was studying in classes in which the teacher spoke a different first language than them (71.2%). In addition, a majority of pupils lived in homes with thatched roofs (76.4%), clay/smear floors (75.6%), and had a radio (62.1%) and bicycle (61.6%) in the home. A plurality lived in burnt brick homes (38.8%) and a smaller percentage had books in their home (29.4%). Very few pupils had electricity in their home (5.8%). The majority of pupils worked in the morning before school (81.8%), and worked after school (81.3%).



Source: Pupil Interview (1999-2002).



Source: Pupil Interview (1999-2002).

In October 2002, when we followed up with the pupils who had been in standard 2 in 1999, approximately 30% were still available in the targeted school system to be interviewed. However, the profile of those still attending school was quite different. For example, although it was almost 4 years later, the average age of pupils in the sample was only 2.1 years older. This means that the older standard 2 pupils (likely to be pupils who had repeated or started school late) in the February 1999 sample had dropped out of school or were no longer attending.

Also, girls were underrepresented. By design, the longitudinal sample was initially almost evenly split among boys and girls, however by October 2002, girls comprised only 39% of the overall sample. Pupils still attending school were those whose standard of housing was higher and they reported their homes had relatively more possessions (19.1% more pupils had a radio, 14.4% more had a bicycle and 23.1% more had books).

While most pupils reported both parents still alive (79.9%), almost 20% of those pupils still in school had lost at least one parent. Pupils worked more as they got older. By October 2002, many more pupils worked in the morning before school (94.3%), and a majority worked after school (76.1%).

IMPLICATIONS

Children –both boys and girls– dropping out of school before attaining permanent literacy has serious social implications. These children will often enter into adulthood with very limited literacy and numeracy. This means they are at greater risk for lower economic productivity, they are ill prepared for participating in the democratic process, and they are less able to support their children's education and health. This in turn impacts the next generation's ability to achieve. An effort needs to focus on helping these at-risk children (girls and children who experience early school failure) stay in school at least until permanent literacy is achieved.

As these children are getting older, they are spending more time doing chores and taking more responsibility to help families economically. This is one possible implication of the early mortality of 20% of these children's parents. The additional home responsibilities means they often do not have sufficient time to do school work and this may be reflected in their performance and limited mastery of academic subjects.

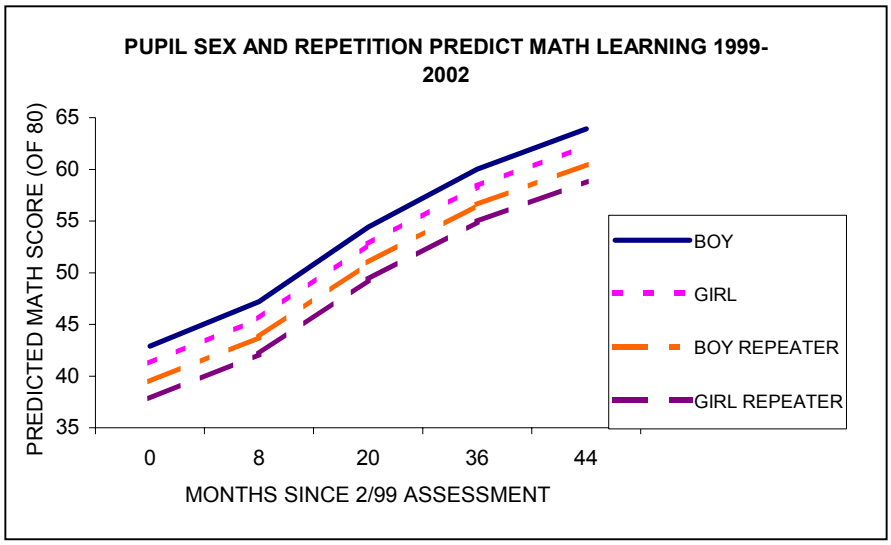
Pupil Learning

Pupils in Malawi are learning as they progress in the school, but some groups are learning at different rates. Gender, repeating pupils, and language groups are compared.

MATH LEARNING

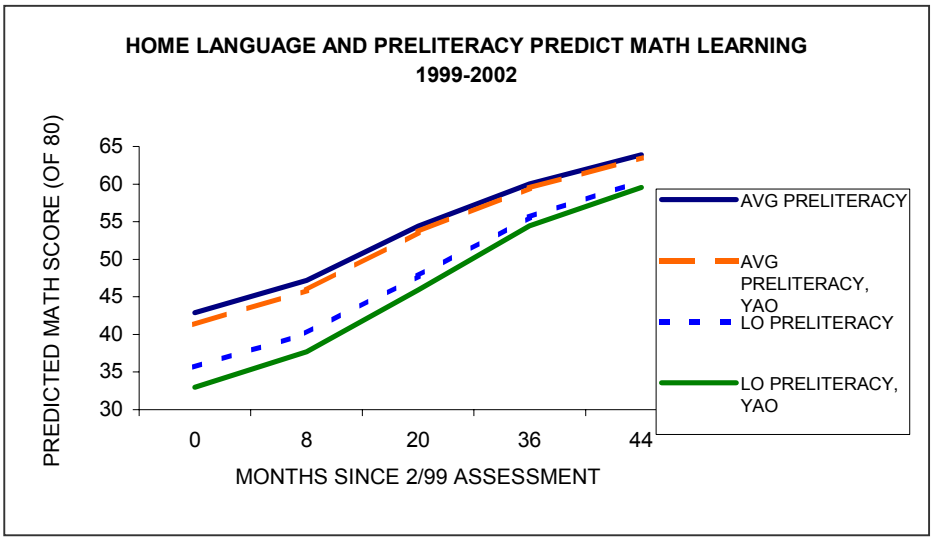
There is a gender gap in math learning: boys outperform girls from 1999 through 2002. Non-repeaters outperform repeaters, and those who do not speak Chiyao at home outperform those who do. Finally, children with better knowledge of letters and greater familiarity with books perform better in math. This is especially true for Yao children.

At all assessment points, boys' estimates are 1.64 points above girls' scores. Repetition has a greater impact on math learning.



Source: Pupil tracking and Assessment from Longitudinal data (1999-2002).

A pupil repeating his/her 1999 standard in 2000 has a predicted math score 3.43 points below that of a counterpart who was promoted in 2000. The boy non-repeater and the boy repeater are 3.43 points apart. Similarly, a girl promoted in 2000 scores consistently higher than her repeating counterpart.



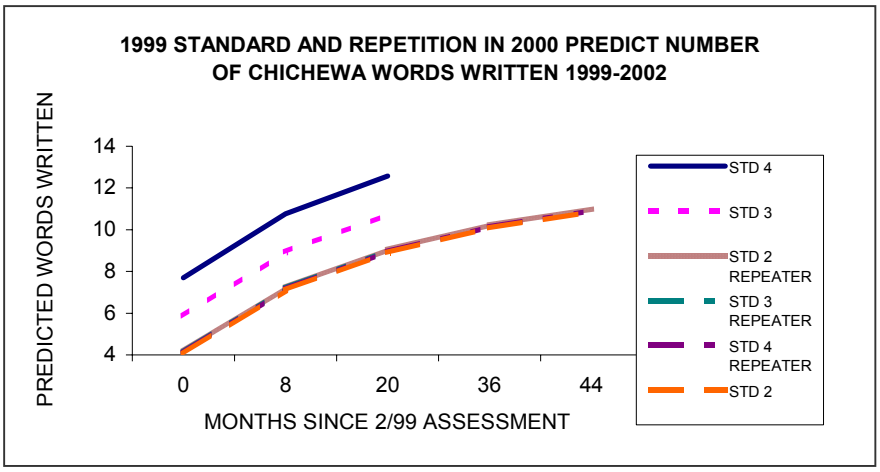
Source: Pupil tracking and Assessment from Longitudinal data (1999-2002).

Low literacy pupils know only 5 letters and 5 of 10 concepts about print in February 1999, but by October 2002, they know 31 letters and 8 concepts about print. This increase in preliteracy skills benefits their math learning. Between the first and last assessment points, a Yao girl's improved preliteracy skills decrease the gap between her estimated math scores and those of a non-Yao girl with average literacy from 9.92 points to 4.36 points. Preliteracy skills in Chichewa benefit math learning and mediate the negative consequences of speaking Chiyao at home and learning with a textbook written in Chichewa and a teacher who is likely to be more proficient in Chichewa.

LEARNING TO READ AND WRITE IN CHICHEWA

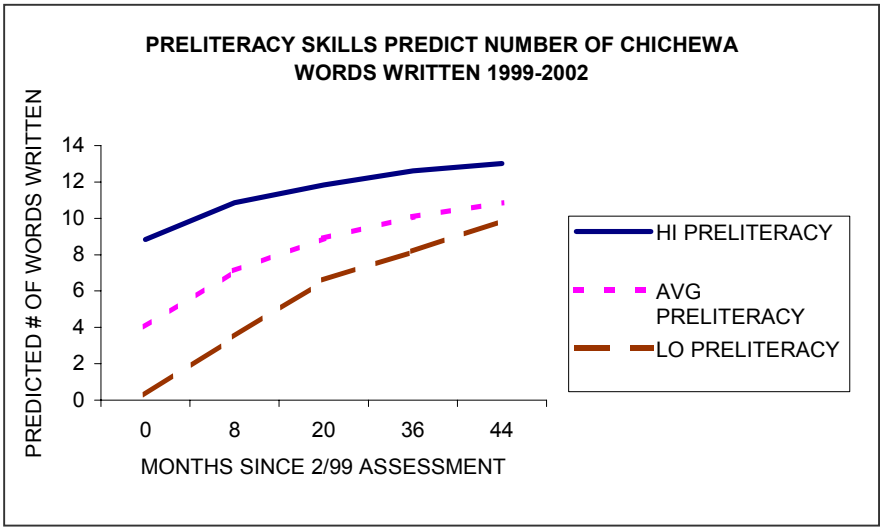
There is no gender gap in learning to read or write Chichewa. Preliteracy skills influence learning to read and write Chichewa such that the higher literate pupils, who knows 5 more letters and 4 more concepts about print than the low literate pupils, reads 19.8% more most used words from the Chichewa textbook correctly and writes two more Chichewa words than the low literate pupils. Finally, repetition in 2000 was associated with lower skills in reading and writing Chichewa, especially in standards 3 and 4.

The 1999 standard 4 girls promoted in 2000 write the most Chichewa words on average. These girls progress from writing an average of 7.70 words in February 1999 to 12.57 Chichewa words in October 2000. The 1999 standard 3 girls write 1.83 words fewer on average than their standard 4 colleagues, progressing from 5.87 Chichewa words on average in February 1999 to 10.74 words in October 2000.



Source: Pupil tracking and Assessment from Longitudinal data (1999-2002).

Interestingly, the 1999 standard 2 girls and all of the girls who repeated standards 2, 3 or 4 in 2000 have similar estimated numbers of Chichewa words written. They write 4 Chichewa words in February 1999 and nearly 11 in October 2002. This indicates that the negative effect of repetition on learning to write Chichewa words grows with each standard.



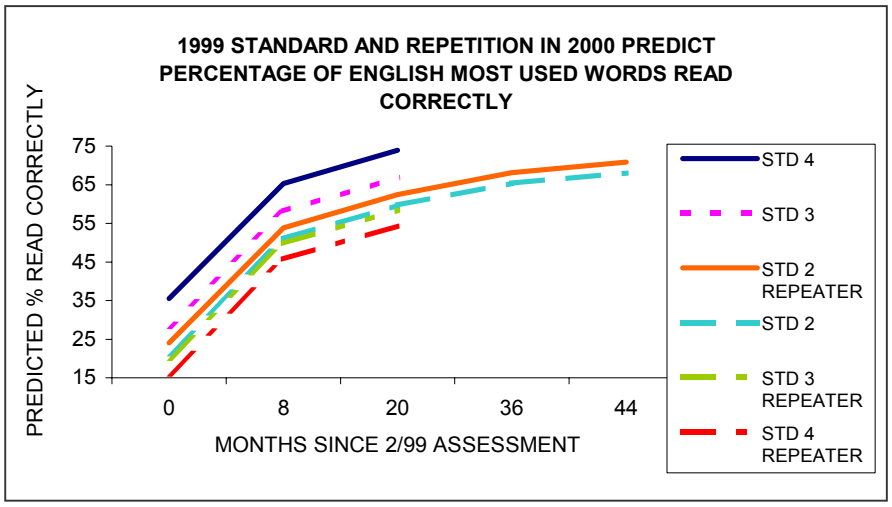
Source: Pupil tracking and Assessment from Longitudinal data (1999-2002).

As low preliteracy girls strengthen their preliteracy skills over time, their predicted number of Chichewa words written increases sharply, decreasing the gap in words written between themselves and average preliteracy colleagues from 8.54 in February 1999 to 3.13 in October 2002. Boys' estimates follow the same patterns according to standard, repetition, and preliteracy, but are .33 points lower than these curves (not a significant difference).

LEARNING TO READ AND WRITE IN ENGLISH

There is no gender gap in learning to write English words, but there is a gender gap in learning to read English. Preliteracy influences learning to read and write English such that higher literate pupils, who knows 10 more letters than low literate pupils, can read 15.3% more most used words from the textbook correctly and can write one more English word than low literate pupils. Repetition of standard 2 in 2000 benefits learning to read English for all pupils and benefits learning to write English words among the non-Yao. However, repetition of standards 3 and 4 in 2000 inhibits learning to read and write English for all others. Overall, Chiyao speakers learn to write fewer English words as they progress through school.

Repetition in 2000 of standard 4 reflects the greatest negative effect and a deficit of 19.51 percentage points between standard 4 non-repeater girls and all standard 4 repeaters.

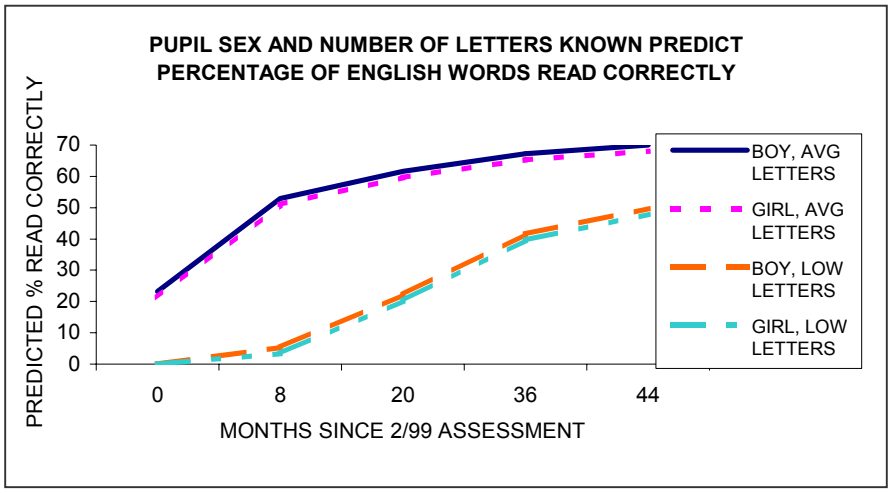


Source: Pupil tracking and Assessment from Longitudinal data (1999-2002).

This is particularly troublesome when we note that the standard 4 promoted pupils are reading standard 5 most used words and the standard 4 repeaters are assessed with the same list of English most used words in February and October 1999 and October 2000. This same trend is apparent, but to a lesser degree among standard 3 girls promoted and repeating, as seen in the distance of 8.35 percentage points between the 1999 standard 3 promoted and 1999 standard 3 repeating curves.

Standard 2 boys' read 1.91 percentage points more English words correctly than standard 2 girls' estimates. Standard 2 boys and girls with low knowledge of letters (5) read none of the English most used words correctly in February 1999. Those with average knowledge of letters (21) read over 20% correctly. As this preliteracy skill improves over time, pupils in both groups learn to read increasingly greater percentages of the English most used words for their standards. A steep increase in percentage

read correctly occurs when the pupils know 20 letters: between 0 and 8 months for pupils with average knowledge of letters and between 20 and 36 months for pupils with low knowledge of letters.



Source: Pupil tracking and Assessment from Longitudinal data (1999-2002).

IMPLICATIONS

Repetition and preliteracy are interrelated. Pupils who repeated the 1999 standard in 2000 know 6.16 fewer letters and 1.34 fewer concepts about print. Promoting math learning and learning to read and write in Chichewa and English entails enhancing preliteracy skills and reducing repetition.

Literacy is the key to academic success. Once literacy is achieved, learning in other academic areas, such as mathematics, can be attained. It is imperative that pupils attain their preliteracy skills early.

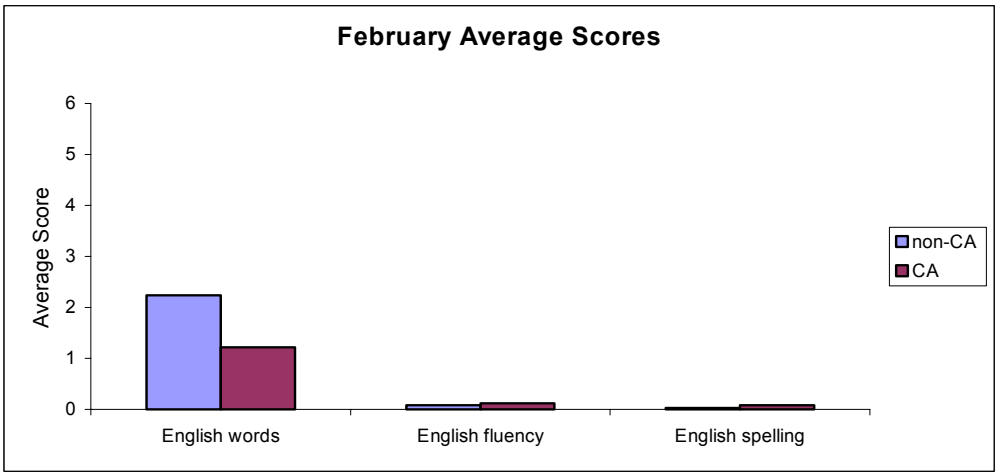
The gender gap still exists in mathematics performance. Teachers need to pay special attention to girls in mathematics teaching. When practical experience is needed, such as problems involving money, parents should give equal opportunity to girls, such as sending them to grocery shops to buy things.

Strategies at home and in the first years of school should include strengthening support for schooling and reading in particular at home, enhancing the amount and variety of literacy materials available in the environment, and promoting child-centered teaching in the earliest standards.

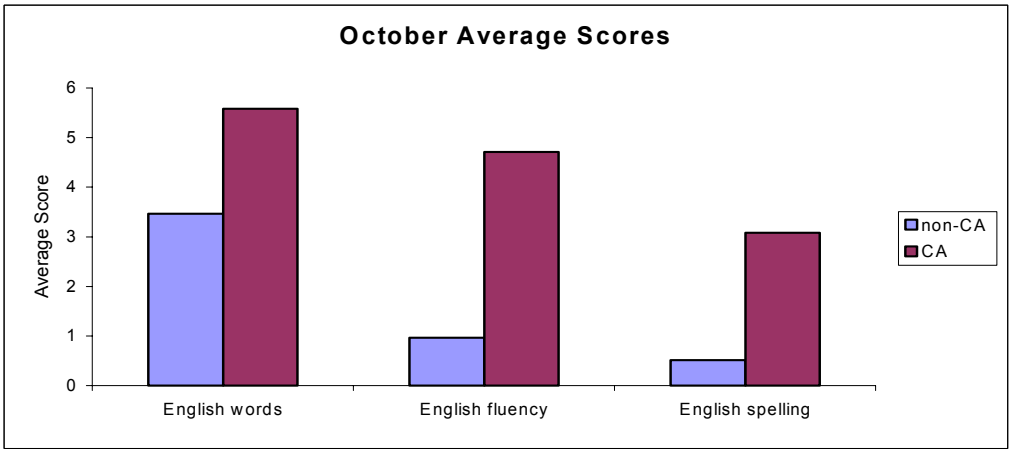
Continuous Assessment and Pupil Outcomes

Teachers who assess and monitor pupil learning regularly and then adjust their lessons accordingly are more effective in their classrooms. Pupils taught by teachers using continuous assessment show greater gains.

Pupils taught by teachers trained in continuous assessment (CA) saw a dramatic increase in learning English during the school year. At the beginning of the school year, few English performance differences existed between pupils taught by the CA or non-CA teachers. In fact, non-CA pupils outperformed CA pupils in English words at the beginning of the school year. However, by the end of the school year, the CA pupils outperformed the non-CA pupils in English words, fluency and spelling.



Source: 2002 Gain Score data and Continuous Assessment data.



Source: 2002 Gain Score data and Continuous Assessment data.

IMPLICATIONS

These dramatic gains are impressive and they illustrate how adjusting the teaching methodology to the needs of the pupil yields better results in learning. Therefore, teacher-training curricula need to incorporate these lessons so that teachers may be taught how to assess pupils' skills and adjust their teaching methodology to incorporate remediation and enrichment techniques.

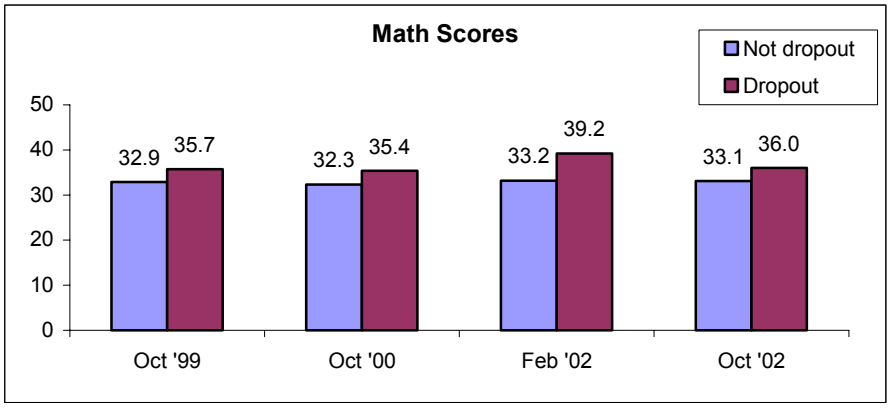
In addition, fostering community participation and efficacy was an integral component of the continuous assessment intervention and seemed to contribute to the improved pupil performance in these schools. The heightened sense of motivation within the community to ensure pupil success was reflected in increased pupil attendance. Community involvement and efficacy needs to be fostered in all schools.

While these gains are laudable, one caution is necessary. The continuous assessment training was a new program that garnered a lot of excitement and engagement from teachers, pupils and community. Some of that excitement could recede as they become habituated to the program and the gains may not be as dramatic in the future. It is therefore important to build on the excitement and investments made.

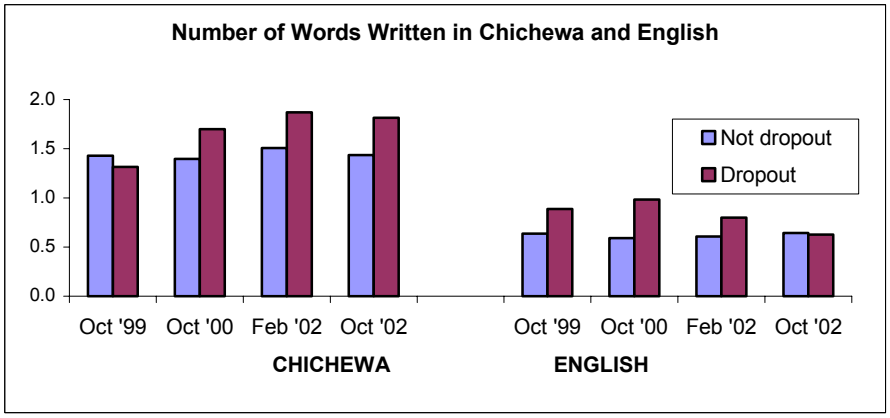
Pupil Retention/Drop Out

Using the longitudinal data from 1999, 2000, and 2002, it appears that in the district of Mangochi, more capable pupils are more likely to drop out of school. The most talented pupils leaving school may signify limited opportunities for educated peoples in the local economy and limited expectations for the benefits of additional schooling.

The pupils that drop out of school score higher on the February 1999 Math assessment (on average 2.8 points higher for October 1999 dropouts, 3.1 higher for October 2000 dropouts, 6.1 higher for February 2002 dropouts, and 2.9 higher for October 2002 dropouts). Similarly, pupils that drop out appear to score higher in both Chichewa and English written words, though the difference in scores are not statistically significant.



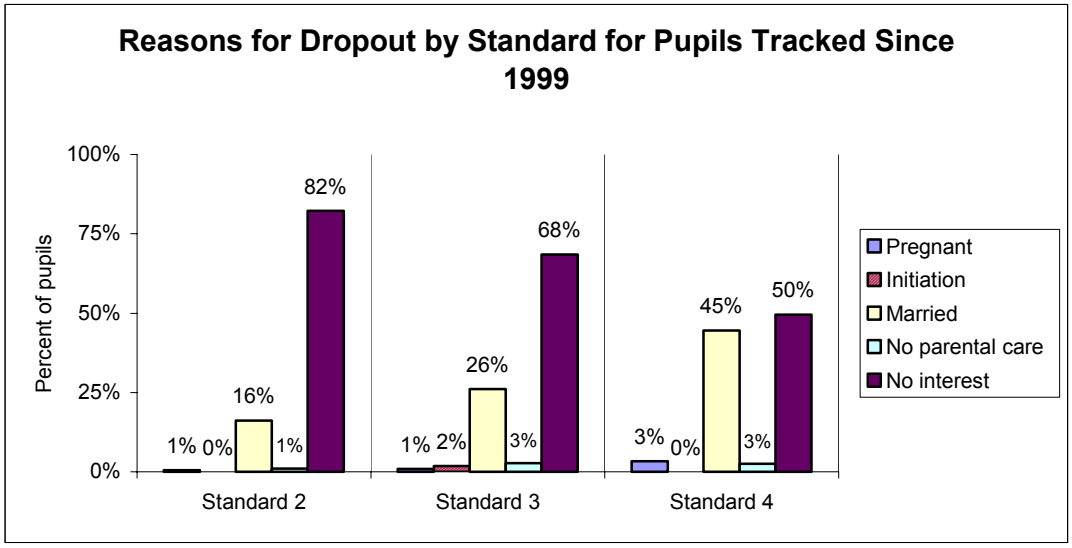
Source: Pupil tracking and Assessment from Longitudinal data (1999-2002).



Source: Pupil tracking and Assessment from Longitudinal data (1999-2002).

Pupils and teachers report pupils dropping out of school for several reasons, including lack of interest, marriage, or for work. The most talented pupils leaving school may signify a lack of opportunities

based on continued education in the local economy. For instance, the level of math and reading skills needed to succeed in the local economy may be low, in which case there is little perceived advantage for the pupils to continue their education. Alternatively, the more talented pupils may be frustrated by the high teacher mobility, lack of resources and feel unchallenged in the class. They may also feel neglected because the pace of the class is geared towards the less capable pupil.



Source: Pupil tracking from Longitudinal data (1999-2002).

IMPLICATIONS

Losing the most capable pupils has serious future implications. Given their higher scores, these pupils have the most potential to be leaders in industry, politics, education and other sectors, but without continued education, that potential is lost.

These pupils have a glimpse of literacy, but are leaving school before they are functionally literate and numerate, which may frustrate them and limit opportunities in adulthood. Also, partial schooling, particularly of a bright pupil, may be problematic if it results in inappropriate generalizations based on little education and is viewed by the community as a stronger resource by those who had even less schooling than is warranted.

To keep these children in the classroom, parents need to be informed periodically of their children's progress, especially when they are among the best in the school to ensure they stay in school. The Malawi DHS Ed Data Study[2] also revealed the greatest reason for drop out was lack of interest.

[2] National Statistical Office and QRC Macro (September 2002) Malawi DHS Ed Data Survey 2002. National Statistical Office: Zomba, Malawi.

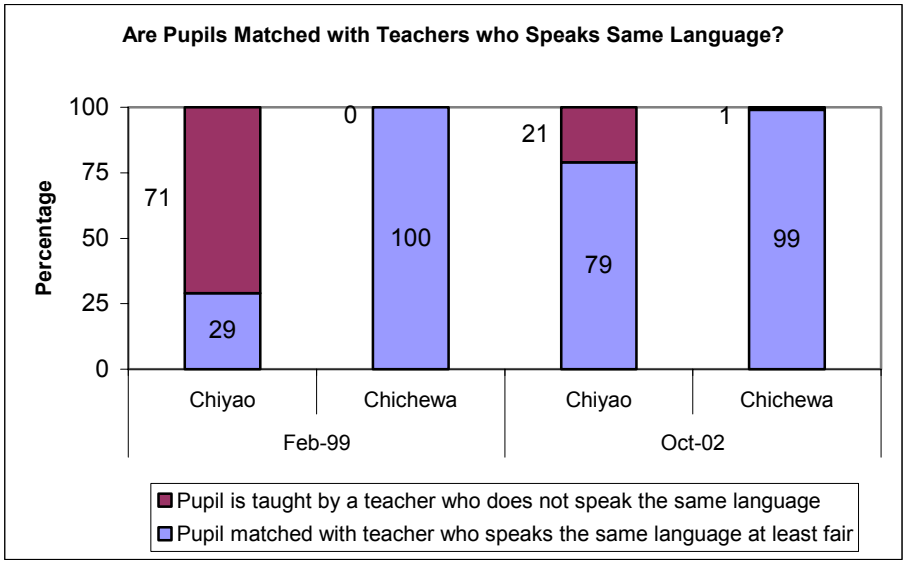
Enrichment techniques, like those promoted in continuous assessment, need to be incorporated in teacher training and applied in the classroom to help chart pupil progress and maintain the interest of the most capable pupils.

Match between Pupil and Teacher Home Languages

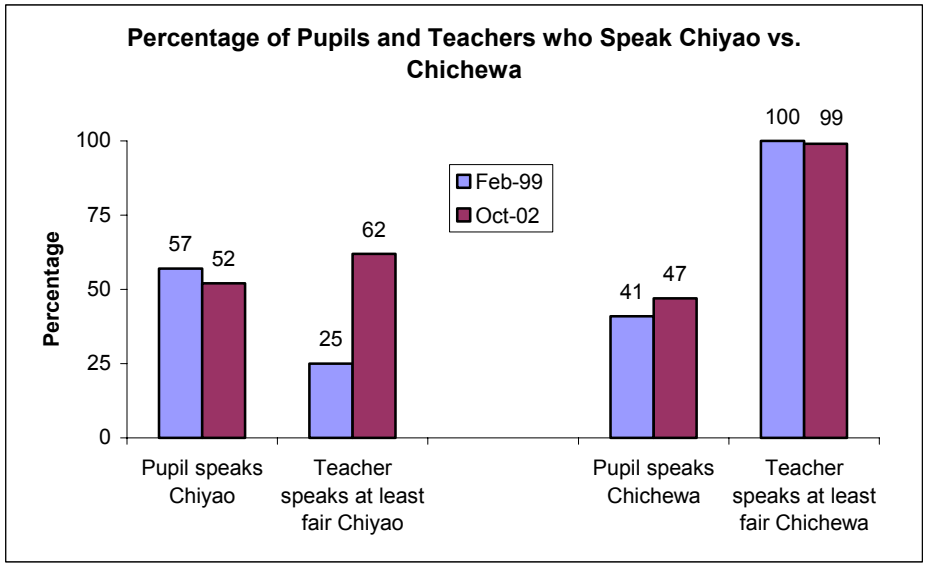
Chiyao speaking pupils, a minority language in Malawi, but a majority language in the Mangochi and Balaka districts, are less likely to be matched with teachers who speak the same language than Chichewa speaking pupils, the national language of Malawi.

In February 1999, less than a third of the Chiyao speaking pupils were matched with teachers who reported they spoke at least a fair amount of Chiyao. In October 2002, the situation improved when more than three-quarters of the Chiyao speaking pupils and teachers were matched. An examination of the cross sectional data in February 1999 did not indicate a greater likelihood of Chiyao speaking teachers in the higher standards. Thus, the improved match in October 2002 suggests that the greater availability of Chiyao speaking teachers reflects a change in teacher's reported proficiency in Chiyao or the influx of Chiyao proficient teachers to the system.

In both February and October 2002, nearly all Chichewa pupils were taught by a teacher who had at least a fair ability to speak Chichewa.



Source: Pupil tracking and interview and Teacher interview (1999-2002).



Source: Pupil tracking and interview and Teacher interview (1999-2002).

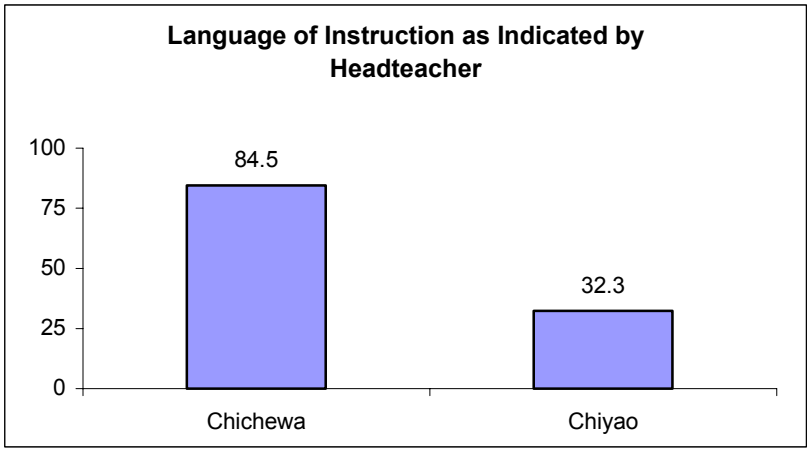
IMPLICATIONS

Since the teacher may not be fluent and is unlikely to have had training in using mother tongue to support learning, our data reveal that Chiyao pupils may be disadvantaged in learning when compared to their Chichewa counterparts in the early years. Although the linguistic structure between Chiyao and Chichewa are similar, the impact of the mismatch is greatest on the youngest Chiyao pupils, particularly standards 1 and 2, who may have little or not prior exposure to Chichewa. Where possible, the District Education Manager and headteachers considerations about teacher postings should aim to match the language the teacher and pupils speak so to minimize any early disadvantage to Chiyao pupils. This has implications for recruitment in fulfilling the goal of Chiyao teachers for Chiyao pupils.

Use of Mother Tongue Instruction

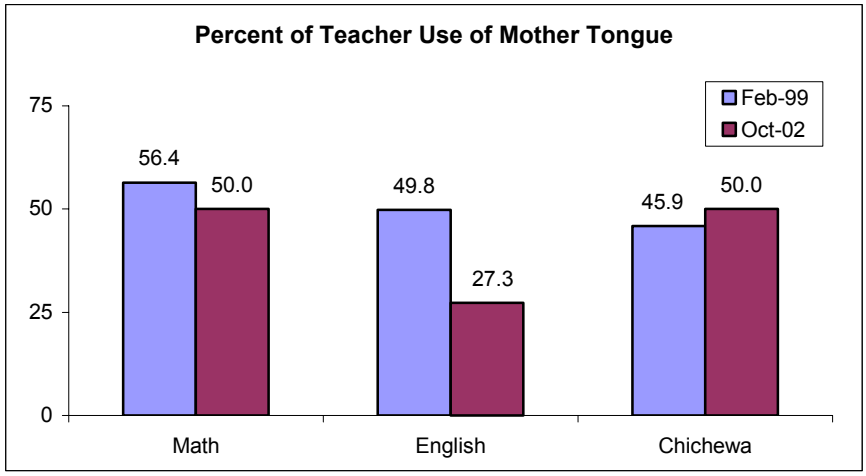
In 1996 Malawi introduced a major reform instituting mother tongue instruction for pupils in standards 1 to 4. Despite the Chiyao majority among pupils in the Mangochi and Balaka districts, the majority of schools indicate that Chichewa is the medium of instruction and approximately half the teachers either did not use or were weak in using mother tongue instruction. When mother tongue instruction was used, Chiyao pupils performed better in English and Mathematics, particularly in the lower grades. However, Chiyao pupils performed less well when mother tongue instruction was used during Chichewa lessons.

In February 1999, 32.3% of the head teachers interviewed indicated they use Chiyao as a medium of instruction in their schools, whereas 84.5% mention Chichewa as a medium of instruction. (Note: Head teachers could give more than one language as a medium of instruction used in their schools.)



Source: Head teacher interview (1999).

In February 1999, approximately half of the teachers did not use or were weak in using mother tongue to help the learners grasp a point being made in that lesson. In Mathematics and Chichewa, the situation was unchanged by October 2002, however in English, even fewer teachers used mother tongue during instruction to support learning.



Source: Teacher observation (1999-2002).

Chiyao pupils whose teachers used mother tongue during English lessons to help them grasp a point performed better in reading English than Chiyao pupils whose teachers were weak in using or never used mother tongue to help learners grasp a point.

Chiyao pupils whose teachers were observed to use mother tongue to help them grasp a point performed better in Mathematics in standard 2 than those pupils whose teachers were weak in using or failed to use mother tongue during instruction. In standards 3 and 4, the trend continued but the differences were not statistically significant.

Chiyao pupils whose teachers used mother tongue (i.e., Chiyao) during Chichewa lessons performed less well in Chichewa reading and comprehension than those pupils whose teachers did not use mother tongue for Chichewa lessons.

IMPLICATIONS

When a teacher uses mother tongue instruction, especially in Mathematics and English, the pupil learns more. Therefore not using mother tongue instruction for Mathematics and English denies the pupil learning. If a pupil is taught an academic concept in a language they do not comprehend, it is very difficult to understand and gain mastery in those concepts.

The English language, both in structure and vocabulary, is extremely different from the Bantu languages of Malawi. By contrast, Chichewa and Chiyao are very similar languages, both of Bantu origin. This linguistic similarity may facilitate or make more efficient the learning of Chichewa. However, because of these similarities, the use of mother tongue instruction while teaching Chichewa may confuse the pupil rather than clarify the concepts. This is especially true when the teacher code

switches (uses words from both languages in the same sentence or thought) between the languages. The use of mother tongue needs to be used systematically when used for teaching Chichewa.

One challenge to successful implementation of mother tongue instruction is the lack of Chiyao materials to support Chiyao as mother tongue instruction or the medium of instruction in the school. Support for the creation of these materials is needed if the language policy is to be fully implemented in the lower primary grades.

Instructional Support Materials

Textbooks and teaching guides can be a powerful tool in the teaching and learning process. Availability, distribution and proper use of these materials are believed to improve pupil outcomes. This section focuses on availability, which is non-existent for Chiyao home language texts and declining for teacher guides. Fortunately, most pupils have and use textbooks.

CHIYAO CURRICULAR SUPPORT

For Chiyao pupils, there is little or no curricular support for instruction in the home language (books, guides, materials).

Data collected on instructional materials examined the availability of and the language used in available materials. None of the textbooks, guides or classroom materials are written in Chiyao, the mandated language of instruction for Mathematics and General Studies for the Chiyao speaking pupils in standards 1-4. Textbooks are in Chichewa, teachers guides are in English. Mother tongue, if used at all, is used primarily to support learning and to speed the transition to Chichewa. Frequently, teachers are not fluent in Chiyao so although the language policy calls for the use of mother tongue as the medium of instruction until standard 4, there is little curricular support for this policy.

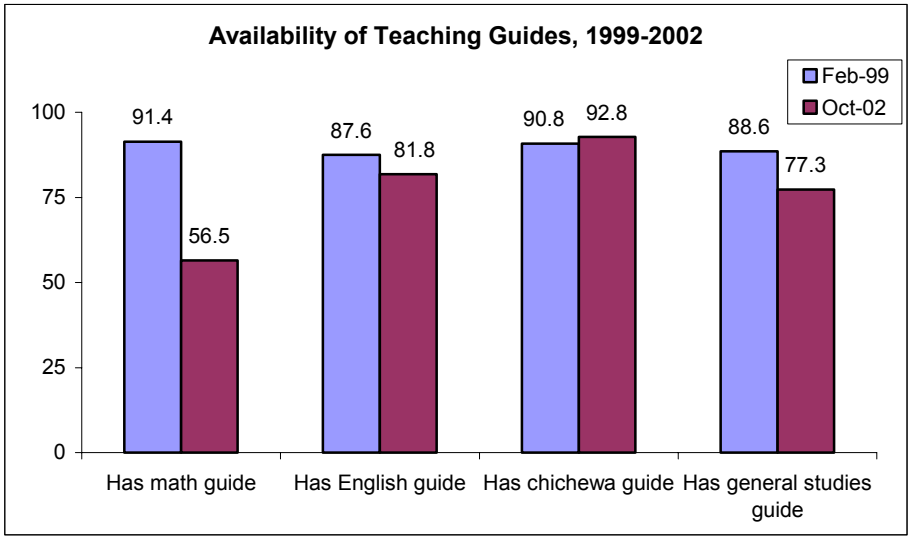
By contrast, Chichewa speaking pupils in standards 1-4 are taught using instructional materials written in their home language. In addition, a section of the weekend newspapers and most radio news broadcasts are produced in Chichewa.

TEACHING GUIDES

Some classrooms do not have teaching guides in some subjects and the situation today is worse than in 1999. This is particularly important in light of the large number of untrained or minimally trained teachers.

- Mathematics: While 9% of the teachers lacked guides in 1999, by 2002, 43% of the teachers did not have math guides.
- English: In 1999, 12% of the teachers lacked guides, by 2002, 18% of the teachers did not have English guides.
- Chichewa: Most teachers have guides for Chichewa; In 1999, only 9% didn't have guides and in 2002, only 7% did not have Chichewa guides.

- General Studies: In 1999, 11% lacked guides and in 2002, 23% of the teachers did not have General Studies guides.

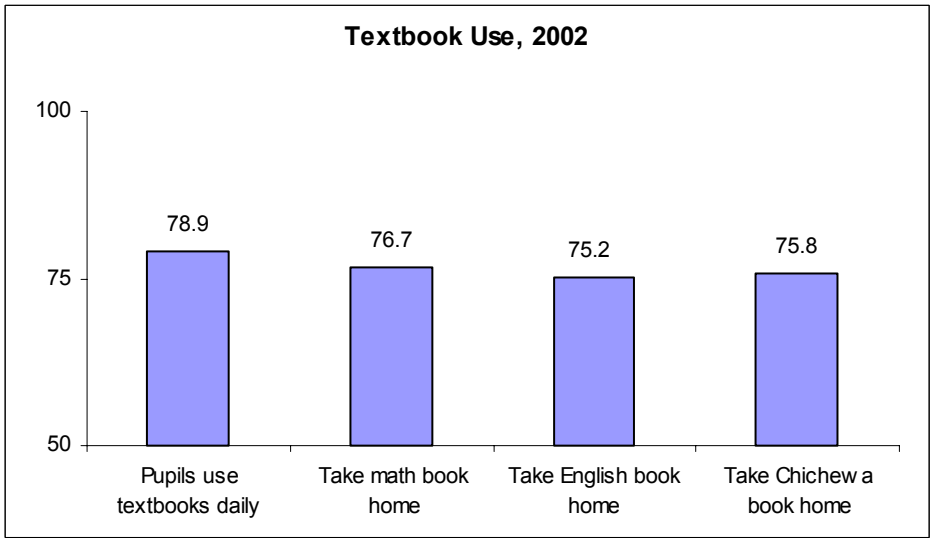


Source: Teacher interview (1999-2002)

TEXTBOOK USE

The majority of pupils use textbooks daily.

Around 80% of the pupils use textbooks on a daily basis. Most of the remaining 20% use textbooks two to three times a week. Three-fourths of the pupils are taking textbooks home.



Source: Teacher interview and pupil interview (2002).

IMPLICATIONS

Although the policy is in place to teach pupils using mother tongue instruction until Standard 4, there are no Chiyao books or materials to support it and therefore children are frequently taught in a language that is not their own. If the language policy is to be followed, the simple answer would be to develop such materials, however, there is not standard orthography for Chiyao, as the language has not been codified. A codification of Chiyao orthography needs to be developed, creating a school standard that is consistently applied to instructional materials.

Teacher guides are an important source of information for teachers, particularly the untrained or under trained teacher. Therefore, untrained teachers who also lack teachers' guides are especially disadvantaged and may be unnecessarily struggling with their teaching.

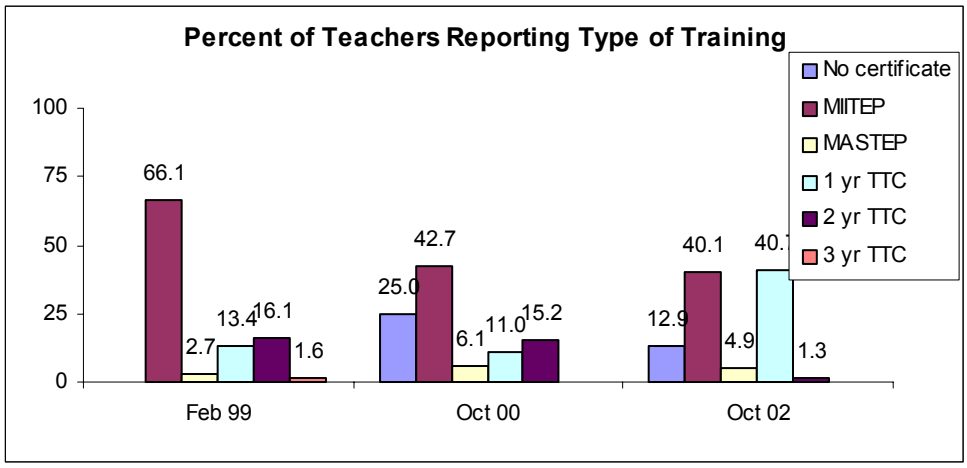
It is exciting to learn that the majority of pupils use textbooks daily and take them home. Reading materials in the textbooks reinforces what the pupils learn from the teacher. Taking textbooks home not only reinforces learning, but it also provides an opportunity for the parent to interact with the pupil and engage in the learning process.

Teacher Training

In October 2002, approximately 30% of teachers were not certified and greater than 95% had not been trained in the 2-year teacher training colleges. There was no clear relationship between teacher qualifications or certification and pupil outcomes (learning, dropout, etc.).

Of the 733 teachers surveyed for the October 2002 teacher tracking data collection, nearly four out of five teachers had received training from either the one-year teacher training college or from the Malawi Integrated In-Service Teacher Education Program (MIITEP) training. The MIITEP program issues temporary certificates after trainees attend an intensive three-month training of theory classes. The temporarily certified teachers then teach in their own classrooms for two terms before returning to the college to finish coursework and to take the examinations to become fully certified. Less than one-tenth of the teachers surveyed had Malawi Special Teacher Education Program (MASTEP) training. This is a 3-year program whereby teachers come during each school holiday to attend classes on teaching methods and content but teaching classes during the school year. All of these programs were developed to reduce the strain on the education system in response to the increased pupil enrollment associated with the introduction of free primary education.

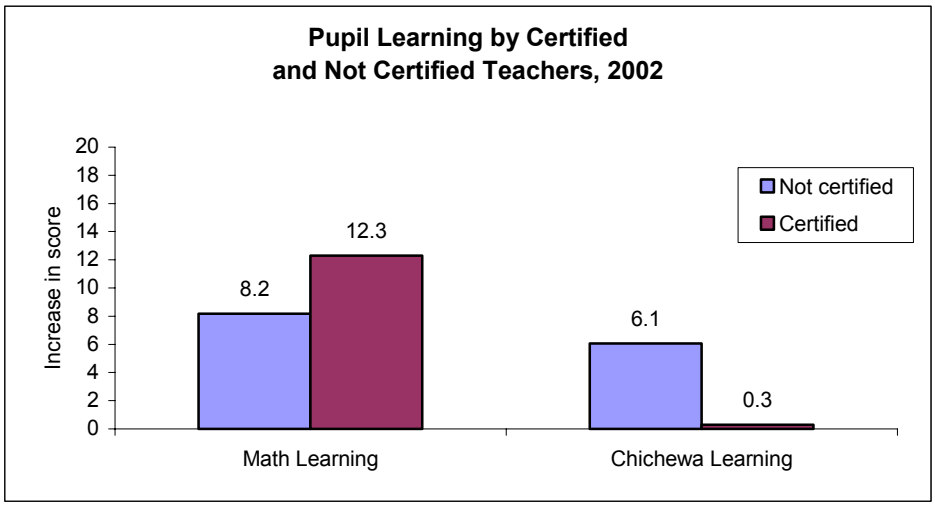
Less then five-percent of teachers in the All-Teacher Survey reported having the conventional 2-year teacher training college (TTC) certificate. Of the 251 teachers reporting MIITEP training, over one-third remained uncertified. In contrast, of the 272 teachers reporting 1 year Teacher Training only 8% reported being uncertified.



Source: February 1999 teacher interview, October 2000 teacher interview, and the October 2002 All Teacher Interview.[3]

[3] There was no teacher interview in October 1999, and the estimates from the February 2002 All Teacher Interview are identical to those in October 2002.

It could be hypothesized that higher teacher qualifications would be associated with higher pupil outcomes, however, there is no statistically significant differences in pupil learning between certified and uncertified teachers in 2002.



Source: Teacher interview and Pupil assessment (2002).

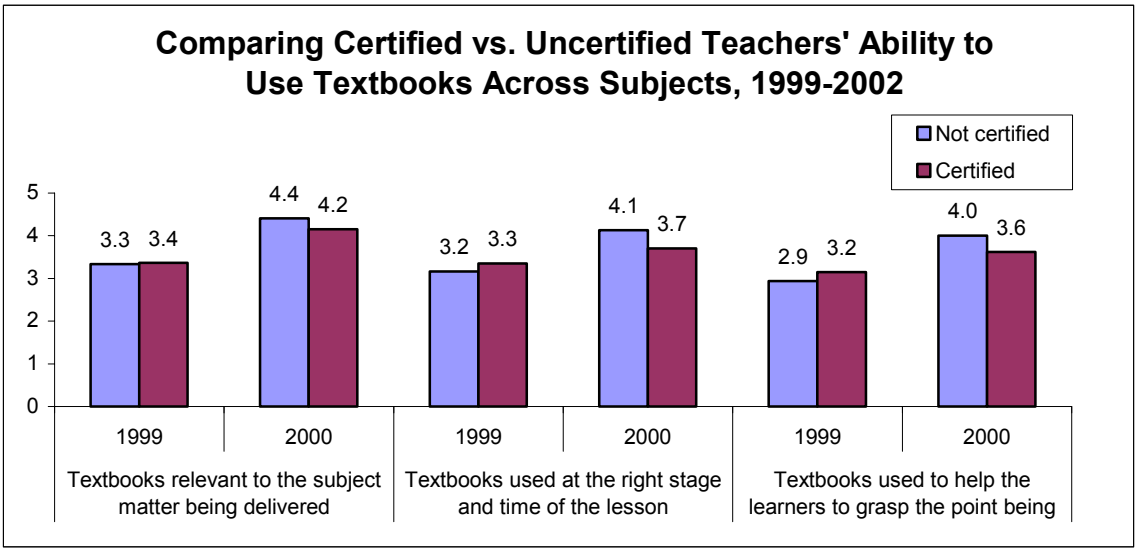
IMPLICATIONS

The good news is that most teachers have some form of training, even if they are not certified. While the statistics indicate no difference between pupils taught by certified vs. uncertified teachers, several factors are not accounted for in this analysis. Teachers may have gone through much, if not all, of the MITEP or MASTEP training, but may not be officially certified yet. The IEQ Longitudinal Study was conducted largely in Mangochi, the same district where the QUEST intervention by SAVE the Children trained teachers. Therefore, the gap between certified and uncertified teachers may be less than other districts. In addition, the impact of teacher training is difficult to measure when there is greater than 50% mobility of teachers in a school year. Alternatively, the lack of differences may indicate the new system in this resource strained environment is not producing high enough quality teachers and a return to investing in the conventional teacher training colleges may be needed.

Teachers Use of Resources

Most teachers, regardless of professional certification, use homemade teaching aids (popularly known in Malawi as TALULAR or Teaching and Learning Using Locally Available Resources) and textbooks, when available. Textbook usage improved for all teachers from the first data collection in 1999 to the last collection in 2002. How well TALULAR is used seems to be related to certification, but even certified teachers' use is weak.

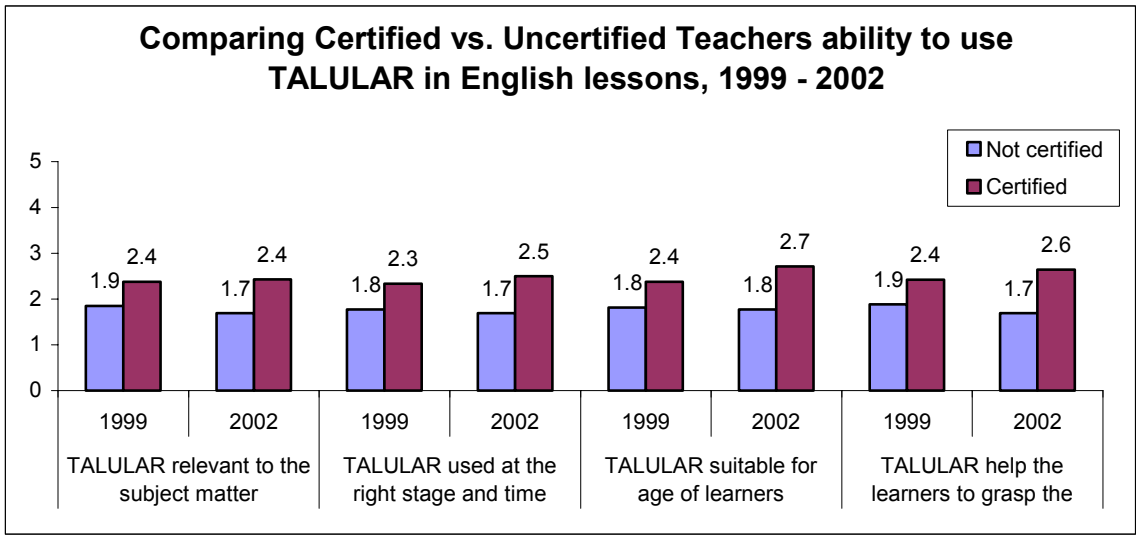
Nearly all teacher use textbooks for English and Mathematics and the majority use Chichewa books when teaching. There was no statistically significant difference between teachers who were or were not certified. (Certified is defined as a teacher who has completed all the education requirements for one of Malawi's teacher education program, passed the examination and acquired a credential from the program.) However, using textbooks does not mean they are used effectively. From February 1999 to October 2002, classroom observations indicated that there was an improvement in the use of textbooks; average ratings across subjects rose from "weak" to "good." Differences did not seem to be related to professional qualifications.



Source: Teacher interview and teacher observations (1999-2002).

Scale: 1 – not done, 2 – very poor, 3 – weak, 4 – good, 5 – outstanding.

TALULAR emphasizes making effective use of resources that are locally available, such as human, animal, material, and non-material resources at a minimal cost. Approximately half the teachers, regardless of professional qualifications, use TALULAR daily and the majority use TALULAR at least once a week. Again, using TALULAR does not replace using it effectively in the teaching. Closer examination reveals that teachers who are certified tend to use TALULAR more effectively, especially in English lessons. Unfortunately, use of TALULAR is weak—observation ratings were generally considered to be between very poor and weak for even the certified teachers.



Source: Teacher interview and teacher observations (1999-2002).

Scale: 1 – not done, 2 – very poor, 3 – weak, 4 – good, 5 – outstanding.

IMPLICATIONS

Teachers, regardless of whether they are professionally certified or not, use teaching materials that are available to them. It is encouraging that teachers improved in their use of textbooks over the 4 years. Textbooks, if used well, are effective aides to teaching and learning. Given that teachers appear to use textbooks regularly and reasonably well, it is important to ensure availability and distribution of textbooks, especially in light of their poorer use of TALULAR.

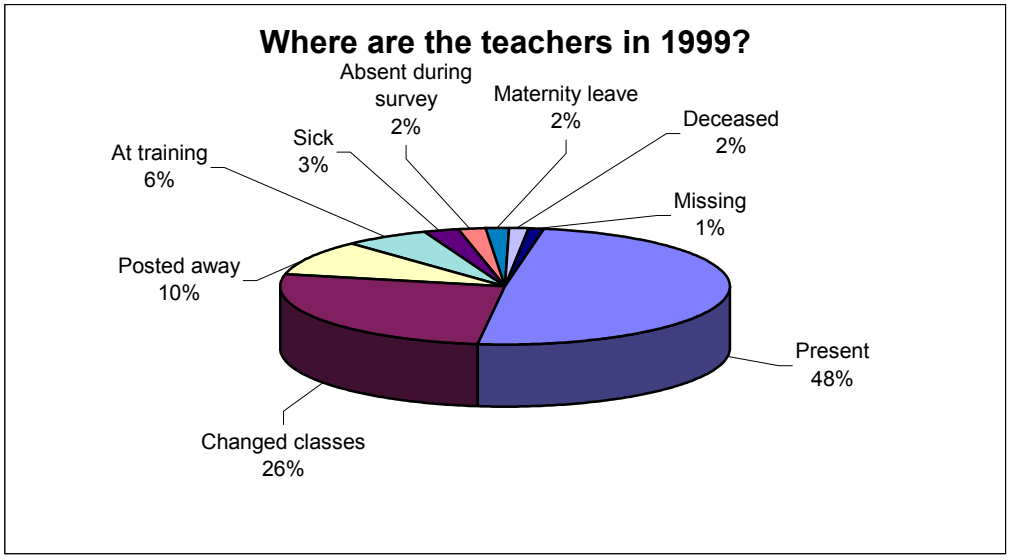
TALULAR is a crucial teaching and learning mechanism particularly for teachers faced with a lack of adequate instructional resources. Although teachers are using TALULAR in an attempt to maximize pupil learning, they could be using it more effectively. Given the shortage of resources in Malawi, it is important to ensure teachers learn TALULAR strategies to maximize the resources available.

Teacher Mobility

In October 1999, as the end of the Malawian school year, more than half of the 188 teachers who participated in the IEQ II Longitudinal Survey in the Balaka and Mangochi districts were no longer in the classrooms to which they had been assigned when school opened the previous February.

Only 48% of the teachers who participated in the study at the start of the school year were still in the same classroom at the end of the school year. More than half of the teachers who left their February classes were reassigned, most often to teach a higher-level standard, but also to fill vacancies created by teachers posted away. Nearly 14% of those missing were away because of health related reasons or death.

The teacher shortage, particularly acute in rural areas, exacerbates the negative impact of teacher mobility as often classrooms are left without teachers and existing teachers are required to cover extra classes.



Source: Teacher tracking, Teacher interview and follow-up teacher survey (1999).

IMPLICATIONS

If you lose 50% of your teachers in 6 months, what does this say about the stability of the education system in Malawi? The lack of continuity and consistency in teaching compromises learning, making mastery of Mathematics, English and Chichewa difficult.

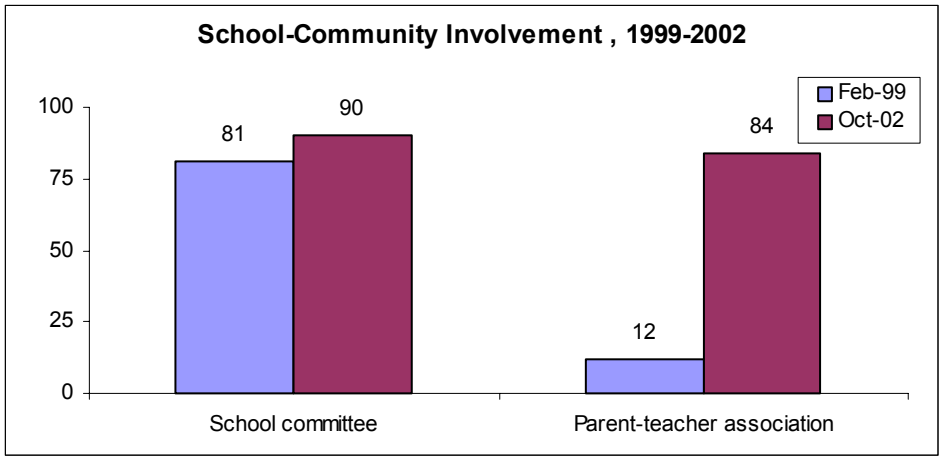
As a result of high teacher mobility, the parents may perceive the school as ineffective and may be less

likely to send their child to school at all or may send them to a different school that is less convenient for the family and child. High teacher mobility further interferes with the pupils' ability to develop a meaningful relationship with the teacher, an important figure in their academic and social development. This is particularly troublesome when class sizes averaging over 78 pupils per classroom are the norm. Without this relationship, pupils may feel less comfortable in the school environment.

Community Engagement and Outreach

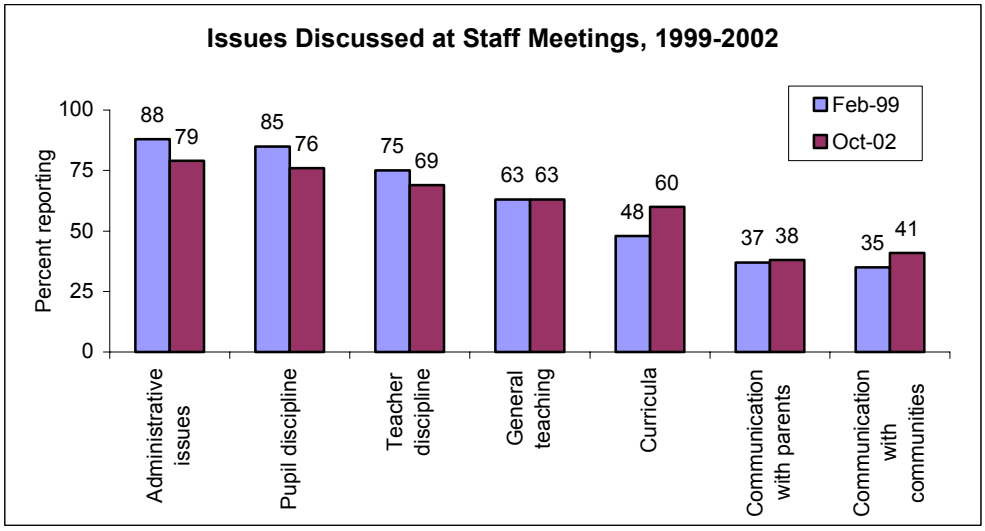
Community engagement in education has become a greater focus in the schools that participated in the survey. More parent-teacher associations (PTAs) were established and discussions about community outreach increased at staff meetings between 1999 and 2002.

In 1999, most schools had functional school committees (81%), but only a small minority (12%) had functional parent-teacher associations. By October 2002, there was a modest increase in the number of school committees and the number of PTAs had increased dramatically. Eighty-four percent of head teachers reported having functional PTAs. In the year prior to the data collection in 1999, schools planned an average of 1.1 projects with communities, initiated 0.8 projects with communities, and implemented 0.8 projects with communities. They also resolved 1.5 problems with communities on average that same year. Subsequently, these community collaborations continued but did not increase substantially by 2002.



Source: Head teacher interview data (1999-2002).

Another way to look at school and community relationships is by examining the focus of school's dialogue at staff meetings. In 1999, the headteachers reported administrative issues and pupil and teacher discipline as the most common issues discussed at meetings. Also common were discussions about teaching in general, curricular issues, communication with parents, and communication with the community. By 2002, however, the conversation shifted with slightly less emphasis on discipline and slightly greater emphasis on outreach to communities as well as curricula issues. This suggests a possible refocus in the culture and priorities of the school on community involvement and engagement.



Source: Head teacher interview (1999-2002).

IMPLICATIONS

Communication and involvement between the community and school improves the school life. Planning, problem solving and other school related issues that involve the parents and community strengthen their ties and investment in pupils' education. This can only improve pupil learning.

Community support was considered vital for the success of continuous assessment. In the continuous assessment schools, absenteeism was lower and pupil performance was higher. It is believed the open school days, when community members and parents can visit the school while in session, and the involvement of the parents in pupil issues helped contribute to these achievements. Efforts need to focus on continuing to build on community enthusiasm and support.

Epilogue

Quality is dynamic – a work in progress characterized by dialogue among policymakers and practitioners. IEQ offers a framework to stimulate dialogue and take action, as guided by classroom-anchored research. (Schubert 1993)

June 2003 marked the conclusion of a four-year activity in Malawi, framed by a scope of work, plan of implementation and a litany of deliverable products and papers, all embedded within a formal contract supported by the United States Agency for International Development/Malawi. We are all very grateful to USAID for the opportunity to engage in such a fruitful, challenging and professionally rewarding activity. June 2003 also marked the beginning of new opportunities to use the knowledge gained working with local educators to learn more about ways to improve teaching and learning in Malawi schools and to apply the technical skills that were strengthened during the conduct of this research. The continued application of knowledge and skills in ways defined by the user to address a specific context is the highest form of sustainability. Sustainability is not measured by perpetuating a specific project, but in the ongoing application of project methodologies and experiences within new environments. Such outreach reflects a dynamic and organic process designed to improve the quality of education.

In Malawi, the findings from the IEQ/Malawi partnership between the Malawi Institute of Education and Save the Children reveal opportunities for accelerating the path to quality at several levels. Examples include:

... for curriculum Knowing about individual achievement of pupils in literacy and numeracy throughout four years of the primary cycle reveals what pupils can know and do over time – whether they can read passages at their standard or above/below; what numeric functions they can perform at what standard.

... for teacher professional development The data contain information about individual teacher education, proficiency in subject content; length of time in the system, and skills in teaching English, Chichewa and Maths. Linkages are also made between teacher characteristics and pupil outcomes.

… for policy consideration The data track pupil retention over time and reveal that the brightest males are dropping out of school; reveal that the link between higher teacher education and pupil achievement is not present; show that teacher attrition is higher than realized; and uncover that teachers are often unable to instruct in the mother tongue of the pupils because they can't speak it and materials may not be available in the mother tongue of either the pupils or the teacher..

In addition, opportunities to examine broader social implications emerge from the data from this longitudinal study. For example:

- what are the implications of not having one's own language used (validated) in the school? Does this have an impact on civic participation, employment opportunity, feeling of worth? Our study does not provide answers to such questions – this goes beyond our mandate -- but the data do illuminate some potentially provocative issues that may some may wish to explore;

- if the rate of single parent or orphaned children continues to rise, as revealed in our study, then how does the school and the community respond and where is the support for such a condition?

- there is a gender gap in preliteracy skills and literacy and they influence learning in other areas – how can this gap be reduced and how can opportunities outside the school be mobilized to close this gap?

During one of the last formal meetings of the IEQ/Malawi team, the members reflected on what they believed to be the five key accomplishments of their work together:

1. The creation of a database about skills, performance and environment that influence teaching and learning. This database of interviews, achievement measures, classroom observations is now available to a broader community and represents a unique contribution to knowledge about four years of a primary school cycle.

2. The production of a continuous assessment manual that is embedded in teacher development and not examinations is also one of the first of its type. The ideas and procedures in this manual reflect the collaborative effort of the IEQ team and teachers in the Ntcheu district of Malawi. This manual is also being considered by the Primary Curriculum & Assessment Reform committee for integration into the new primary school curriculum.

3. The exposure of the MIE's TALULAR (teaching and learning using locally developed resource) to hundreds of donors and other program developers in development education. The team produced the resource guide of activities developed and copyrighted by the MIE.

4. The new and enhanced skills in research and development among the team members and others in their respective institutions.

5. The integration of sharing findings from the research on an ongoing basis with both teachers and policymakers – particularly the teachers, who identify ways to use findings in their classrooms and to share with their colleagues.

Our work together has enriched us and forged new relationships and new ways to think about improving the learning opportunities and experiences for the children of Malawi. For this, we are truly grateful.

Appendix 1: Example Research/Assessment Instrument Questions[4]

Task	Levels	What is Measures	Sample Questions	Scoring	Sample Findings Using the Instruments
PRE-READING					
Concepts about Print (adapted from Clay, 1979[5])	2-4	Hands on exposure to print.	Questions asked in vernacular, e.g.,"Turn to page 5."	# Correct	By the end of standard 3, 2/3 of the pupils demonstrated mastery of basic skills associated with using printed materials such as finding a page or turning to a specific unit.
Letter/Sound Recognition	2-4	Alphabet recognition/ discrimination	Upper and Lower case letters-Can be pronounced in Chichewa OR English	# Correct	At the beginning of standard 2 most pupils recognized very few letters. By the end of standard 3, most pupils recognized a majority of the letters.
READING--CHICHEWA					
Aided Reading	2-4	Pointing to words that are read.	same as below	% Correct	At the beginning of the school year, 60% of standard 2 pupils were unable to recognize any of the most commonly used words in their Chichewa textbook.
Reading Most Used Words	2-4	Reading of most commonly used words in the P2-P3 textbooks	Word lists with words such as and, the, for, one, they, etc.	% Correct	About 70% of the standard 4 pupils demonstrated that they were able to read all of the most commonly used words in their Chichewa textbook.

[4] This table was originally prepared by Abigail Harris for inclusion in the IEQ Research Tools website.

[5] Clay, M. M. (1979). Reading: The patterning of complex behavior. Exeter: NH: Heinemann Educational Books.

Task	Levels	What is Measures	Sample Questions	Scoring	Sample Findings Using the Instruments
Reading Passage from Textbook	2-4	Decoding accuracy	Passages selected from P2-P4 textbooks; pupils only read passages from their current standard and below.	Words % Correct	For 25% of the standard 4 pupils, the Chichewa textbook passages are too difficult and consequently pupils will likely become frustrated and the learning will be inefficient.
	2-4	Decoding speed	Speed in first minute of reading the above passages	Words/ Minute	Pupils in standard 3 average about 15 words per minute whereas standard 4 pupils are able to average about 32 words per minute.
Passage Comprehension	2-4	Reading Comprehension	Questions based on the above passages	% Correct	Reading quickly and accurately was associated with reading comprehension. Pupils who read slowly also had more difficulty with the comprehension questions.
READING--ENGLISH					
Aided Reading	2-4	Pointing to words that are read.	same as below	% Correct	Pupils in standard 4 were able to recognize about 18% more words when the words were read aloud than they could read aloud without assistance.
Reading Most Used Words	2-4	Reading of most commonly used words in the P2-P3 textbooks	Word lists with words such as and, the, for, one, they, etc.	% Correct	Only 25% of the standard 4 pupils demonstrated that they were able to read all of the most commonly used words in their English textbook.
Reading Passage from Textbook	2-4	Decoding accuracy	Passages selected from P2-P4 textbooks; pupils only read passages from their current standard and below.	Words % Correct	The English textbooks are too difficult for 95% of the Standard 2 pupils, 85% of the Standard 3 pupils, and 50% of the Standard 4 pupils.
	2-4	Decoding speed	Speed in first minute of reading the above passages	Words/ Minute	Pupils in standard 3 average 9 words per min.; standard 4 pupils average 26 words per min. The correlation between reading rate in Chichewa and English is .82.

Task	Levels	What is Measures	Sample Questions	Scoring	Sample Findings Using the Instruments
Passage Comprehension	2-4	Reading Comprehension	Questions based on the above passages	% Correct	Reading quickly and accurately was associated with reading comprehension. Pupils who read slowly also had more difficulty with the comprehension questions.
WRITING					
Copying Letters	2-4	Copying letters using a pencil and paper	Pupil is asked in vernacular to copy his/her name.	Pass/Fail	About 93% of all standard 2 pupils could copy letters by the end of the year.
Writing Name	2-4	Writing name correctly without help	Pupil is asked in vernacular to write his/her name.	Pass/Fail	At the beginning of the school year, 47% of the standard 2 pupils could write their names.
WRITING-CHICHEWA					
Writing Words-Chichewa	2-4	Writing vocabulary--Chichewa	Pupils are asked to write as many Chichewa words as they can within 10 minutes.	# of correctly spelled words	Most pupils in standard 2 and 3 experienced difficulty writing more than a few words whereas by standard 4 most pupils wrote more than 10 words.
Writing Composition-Chichewa (only administered to pupils who write 10+ words)		Fluency in written expression	Pupils are given a topic from Chichewa syllabus and asked to write a letter or story.	Words produced -# (spelling not considered)	When asked to write a letter to a friend, Lawrence wrote 54 Chichewa words in 5 minutes.
		Words spelled correctly in written expression	Exa: Children in Malawi know folk stories. Write a folk story or some other kind of story.	Words spelled correctly (#)	Of the 54 words that Lawrence wrote, 49 (91%) were spelled correctly.

Task	Levels	What is Measures	Sample Questions	Scoring	Sample Findings Using the Instruments
WRITING-ENGLISH					
Writing Words-English	2-4	Writing vocabulary--English	Pupils are asked to write as many English words as they can within 10 minutes.	# of correctly spelled words	Most pupils in standard 2 and 3 were unable to write any English words whereas by standard 4, 48% of pupils could write between 1-5 words and 39% could write more than 5 words.
Writing Composition-English (only administered to pupils who write 10+ words)		Fluency in written expression	Pupils are given a topic from English syllabus and asked to write a letter or story.	Words produced -# (spelling not consi-dered)	When asked to write a letter to a friend, Rosemary wrote 19 English words in 5 minutes.
		Words spelled correctly in written expression	Exa: A friend has moved away from your community. Write a letter to the friend. Tell the friend about your family or school.	Words spelled correctly (#)	Of the 19 words that Rosemary wrote, 10 (53%) were spelled correctly.
MATHEMATICS					
Counting	2-4	Beginning concepts of how many using objects and pictures	How many bottle caps are here? (asked in Chichewa)	# correct	57% of the standard 2 pupils responded correctly to all 12 of the counting and basic math questions.
Recognizing/ writing numbers	2-4	Recognition and familiarity with numerical symbols.	Can you show me an eight?	# correct	At the end of the year, 39% of standard 3 pupils and 72% of standard 4 pupils can correctly read the number: 2,379
Coin recognition	2-4	as above with $	Which is more? three 10 tambala coins or one 50 tambala coin? (with coins)	# correct	Using coins, 85% of standard 2 pupils can correctly identify, "Which is more?"
Sequencing/ Ordering	2-4	Beginning concepts of number order	Can you count form 7 to 14?	# correct	At the beginning of standard 2, 84% of the pupils can count in sequence from single to double digits.

Task	Levels	What is Measures	Sample Questions	Scoring	Sample Findings Using the Instruments
COMPUTATION (USING +, -, X , =)					
Addition/ Subtraction	2-4	Mastery of addition and subtraction facts and algorithms without (standard 2) & with (standard 3+) regrouping	2 + 6; 12 + 29	# correct	At the end of the school year, approximately half of standard 3 pupils demonstrate mastery of subtraction (with and without regrouping).
Multiplication/ Division	2-4	Mastery of multiplication and division facts and algorithms without (standard 2) & with (standard 3+) regrouping	Tell me what is three times four.	# correct	The majority of standard 4 pupils demonstrate only partial mastery of simple multiplication.
PROBLEM SOLVING/REAL WORLD MATH					
Oral word problems (using props)	2-4	Mastery of simple computation as used in daily situations	You have 6 fish to share with two friends. You each get the same number. How many does each get?	# correct	About 72% of standard 2 pupils can perform simple multiplication using bottle caps but only 35% can do the same problems using only numbers
Money	2-4	Mastery of computation in the marketplace.	You want to buy a mango for 12t and have a 20t coin. How much change do you get?	# correct	Over half of the standard 4 pupils can perform simple multiplication in problems involving money.
Measurement	2-4	Concepts of size	Which of these sticks is longer?	# correct	Almost all pupils (96%) in standards 2-4 can identify which object is longer.
PUPIL INTERVIEW					
		Socio-economic status	What type of roof and floor does your house have?		77% of the pupils interviewed reported that they lived in houses with a thatch roof.
		Home educational environment	Did you see your mother (father, sister, brother) reading last week?	categori-cal	Girls in school were significantly more likely than boys in school to report seeing their mothers reading.

Task	Levels	What is Measures	Sample Questions	Scoring	Sample Findings Using the Instruments
		Home language	What language do you speak at home?	categori-cal	42% of the pupils in participating schools speak the national language (Chichewa) at home whereas 56% of the pupils speak ChiYao at home
		Health	Height and weight (measured)		
TEACHER INTERVIEW					
	2-4	Teacher background	What languages do you speak and how well?	list, fluency self-rating	35% of the teachers report speaking "very good" or "excellent" English
	2-4	Education and training	What is your highest academic qualification?	categori-cal	70% of Mangochi teachers have only a JCE.
	2-4	Classroom environment	How many boys/girls are in your class today?	total by sex	While the average reported class size was over 80 pupils, teachers reported that average daily attendance was about 60 pupils.
	2-4	Pedagogical support	In the past three years, how many inservice trainings have you attended?	#, total hours	At the end of the year, 64% of the teachers reported attending SAVE in-service training sessions.
	2-4	Relationship with community	Have you ever involved community members in teaching?	yes/no and frequency	84% percent of participating teachers have worked with community members to improve the school; the majority of them do so more than once per term.

Task	Levels	What is Measures	Sample Questions	Scoring	Sample Findings Using the Instruments
TEACHER SURVEY					
	2-4	Teaching Efficacy (adapted from Gibson & Dembo, 1984[6])	When I really try, I can get through to most difficult students.	disagree/ agree (1-4)	30& of the teachers disagree that they would be able to accurately assess whether an assignment was at the correct level of difficulty for a student.
TEACHER OBSERVATION					
	2-4	Lesson Plan & Preparation	Content suitable for age group	0=not done to 4= outstanding	At years end, 40% percent of participating teachers have outstanding fit of content to age group in their lesson plans. (at baseline the figure was 25%)
	2-4	Lesson Delivery	Uses varied approaches to deliver subject matter	0=not done to 4= outstanding	During math, 1/3 of Yao pupils were in classrooms where the teacher did not use mother tongue to help the pupil grasp a point
TEACHING AND LEARNING AIDS SURVEY					
	2-4	Use of teacher made or locally available learning materials	Listing of aids seen in classroom, typology and use	total, % used	Early in the year, about 1/2 of the teachers used teaching and learning aids in their teaching whereas at years end, 3/4 were observed using aids.
TEACHER SUBJECT KNOWLEDGE					
Mathematics	2-4	Standard 8 mathematics skills	Express 5/8 as a decimal fraction.	# correct	MSCE qualified teachers performed significantly better in tests of Mathematics and English than JCE qualified teachers.

[6] Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. Journal of Educational Psychology, 76, 569-582.

Task	Levels	What is Measures	Sample Questions	Scoring	Sample Findings Using the Instruments
English	2-4	Standard 8 English skills	The headmaster praised Mary ____ her hard work.	# correct	English knowledge was correlated significantly with observer ratings during English lessons of "Displays competence in subject matter."
TEXTBOOK SURVEY					
	2-4	Number and condition of available textbooks		count	In 20% of the classrooms, the ratio of Chichewa books to pupils in class was 1 book to 2 or more pupils.
PUPIL TRACKING					
		Enrollment, drop out, repetition	List of pupils checked over two years	total by sex	22% of girls who started standard 2 in Feb. 1999 were not available in Oct. 99. It was reported by teachers that 11% had dropped out.
HEADTEACHER INTERVIEW					
	School	School facilities, resources	Does the school have PTA?	yes/no	Initially, only 1/3 of the headteachers reported attending PTA meetings.
	School	Pedagogical support	In the past month, how many lessons have you observed?	total #	78% of headteachers reported observing teacher lessons in the past month.
	School	Community Relations	How many projects did you implement together with the community last year?	total #	43% of headteachers reported that the community was involved in maintaining the school buildings during this school year.
TEACHER LISTING					
	School	Qualifications, languages of school teaching force	Highest academic qualification		A large percentage of teachers changed classes within the school during the school year.

Task	Levels	What is Measures	Sample Questions	Scoring	Sample Findings Using the Instruments
SCHOOL OBSERVATION					
	School	Facilities, conditions	Do you see classes meeting outside due to lack of classroom space?	yes/no and number	60% of the schools have one or more classes meeting outdoors due to lack of space.
COMMUNITY INTERVIEW					
	School	Activities undertaken	Do you monitor pupil attendance?	# of activities	Half of the communities reported that they monitor pupil drop out but only 40% report following up with families of pupils who drop out.
	School	Opinion of School-community relations	Community members visit school, discuss issues with teachers openly and freely	agree/ disagree	58% of Mangochi community groups agree that their members visits schools and speak openly with teachers.